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# SUMMER WHISTLE COUNTS, ROADSIDE COUNTS, AND FALL ABUNDANCE OF NORTHERN BOBWHITE

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## ABSTRACT

Reliable information on fall abundance of northern bobwhite (*Colinus virginianus*) is important for proper harvest management. Aerial surveys can provide reliable estimates of abundance, but can be expensive. Alternatively, whistle counts and roadside counts are indices of abundance that are relatively inexpensive, simple, and commonly used by biologists. We compared whistle and roadside counts conducted during summer to fall relative abundance (coveys/km) estimates obtained using helicopter surveys. All data were collected at the pasture scale (mean = 1,716–2,762 ha) on the King Ranch (334,000 ha), which is comprised of 4 divisions across South Texas. Average survey effort was 245 km/year (1999–2001) and 1,194 km/year (1999–2007) for whistle and roadside counts, respectively, and 48 km/pasture/year (1999–2009) for fall helicopter surveys. Preliminary analyses demonstrate a moderate correlation between whistling bobwhite males and fall relative abundance ( $r = 0.68$ ). We collected age-based (i.e., chicks, juveniles, and adults) and population structure-based (i.e., singles, pairs, or coveys) data for roadside counts. Correlations between roadside counts and fall relative abundance varied by age and population structure. We found moderate correlation between total juveniles and fall relative abundance ( $r = 0.49$ ); all other correlations were low ( $r = <0.36$ ). We explore the feasibility of using summer whistle and roadside counts as a surrogate for fall relative abundance and discuss optimum timing to conduct surveys.

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**Key words:** *Colinus virginianus*, count methodology, northern bobwhite, South Texas

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